Drawing Amendments

Please replace only number FIG. 3C with new amended FIG. 4C.

FIG. [[3]] 4C

Attachment: Replacement Sheet

Annotated Sheet Showing Change

REMARKS/ARGUMENTS

In response to the Office Action, applicants have amended the title in order to describe the invention more accurately by omitting "method" and adding "energies". The function and novelty of invention is about inducing energies of alpha rhythm to human body for healing, such as sleep disorders and men's prostate problems.

Applicants have amended all claims to overcome the objections and rejections and to define the invention patentably over the prior arts.

In response to Claim Objections under 37 CFR 1.75(c), claims 12 and 16-17 have been amended and there is no such a use of "and" for multiple dependent claims anymore.

In response to Claim Rejections under 35 U.S.C. 112, claims 1-17 have been amended. The amended Claim 1 is defined particularly as the subject matter of the invention. We have amended our invention to claim an apparatus only and no a method, therefore structures and functions of the apparatus have been provided with more details. We have used active voices suggested by the Examiner, such as "changing ...", etc.

As to claim 1, an average frequency range of 8-14 Hz and a peak frequency of 11-12 Hz are recited. The average frequency range of 8-14 Hz represents 60% - 80% of brain waveforms and the peak frequency of 11-12 Hz represents 10% - 20% of brain waveforms. In order to avoid the confusion, we have omitted "the peak of 11 Hz to 12 H" in claim 1 and specification.

As to claim 2, we have canceled it.

As the claims 3-4, they are two different integrated circuits for different functions as stated in the amended claims.

As the claim 5-7, they are different circuits for different functions as stated in the amended claims. The claim 5 has been canceled.

As the claim 5, it has been canceled.

As the claims 6-7, "said signals" are stated because "signals" are first stated in the claim 1, please see the correction in the amended claims.

As the claim 8, "the filtered signals" has been replaced with "said filtered signals", please see the correction in the amended claim.

As to the claim 9, it has been canceled as suggested by The Office Action.

As to the claims 10-11, they have been canceled as suggested by The Office Action.

As to the claims 12, "a transducer" has been stated for the first time and its functions have been stated, please see the correction in the amended claim.

As to claim 13-15, they depend on claim 12, please see the corrections in the amended claims.

As to claim 13, it depends on claim 12 and its structure and function are stated, please see the corrections in the amended claim.

As to claim 14, it depends on claim 12 and its structure and function are stated, please see the corrections in the amended claim.

As to claim 15, it depends on claim 12, please see the correction in the amended claim.

In response to the Claim Rejection under 35 U.S.C. 102 (b) as anticipated by Yanagudaura (5954629), we have amended our claims accordingly. We have narrowed the claims to overcome the rejection. They are different inventions between Yangaudaura's and ours as follows:

1. In Yanagidaira's application, they invent the special sensors for detecting brain waves of a user, and use band-pass filter extracting particular brain waves, including an α wave (Col 3, In 36-40).

   In our application, we did not use any sensor for detecting brain waves of a user. We did not use any band-pass filter from a user. We invent a special recorded waveform data of simulated alpha rhythm human brain waveforms as shown in Figure 2, characteristically applying average frequencies at a range of 8 Hz to 14 Hz, changing amplitude from high or low accordingly; and changing the frequencies and the amplitudes at non-stationary random order in the duration of the motion event.

2. In Yanagidaira's application, they produce a stimulation signal dependent on an α wave extracted by a selected band-pass filter, and emit a light in response to the stimulation signal to the user (Col 3, In 44-47).

   We did not use selected band-pass filter to extract a stimulation signal from the user. Most importantly we did not emit any stimulation light to the user. We invent, based on the above characteristics, an integrated circuit to generate oscillatory digital signals or currents. The signals or currents are transformed

via a transducer into several forms of energies, i.e., an alpha rhythm electromagnetic energy; interfered static magnetic energy, a sub-audio acoustic energy, and a mechanical vibration energy. These combined energies are more effective in healing and relaxing,

In response to claims 5-11 rejection under 35 U.S.C. 103 (a) as being unpatentable over Yanagidaira in view of Meland (4227516), we have amended our claim accordingly, and we have canceled claim 5 and claims 9-11. However, our claims 6-8 are different from theirs as follows.

1. In Yanagidaira'a application (5954629), they disclosed en electrical signal of alpha waveform: "The α wave has a waveform having an amplitude between 10 to 100 μV and frequency between 8-14 Hz" (Col 2, In 24-25). We believe that they just quote as the general definition of the α wave in their Background of the Invention. Furthermore, they only described that the frequency 8-13 Hz was obtained by a known complexed Demodulation (CD) method, and that they did not describe the amplitude in the Detailed Description of the Preferred Embodiments (Col 6, In 40-48, and FIG. 4a).
2. Yanagidaira disclosed an amplifier (FIG. 1: 29) for amplify a band-pass filtered signal releasing from a user. But the amplifier (FIG.1: 29) is for the light emitting. It states, in the Detailed Description of the Preferred Embodiments, "The stimulation signal is applied to the light emitting member 32 through the amplifier

29". (Col 5, In 19-21). Furthermore they did not disclose the electrical structure of the amplifier in their application.

On the other hand, our signals are not extracted from users. Our signals are directly from a recorded waveform data of simulated alpha rhythm human brain waveforms. Therefore our signals are more precise as human alpha rhythm. Our amplifier is not for light emitting. Our signals are amplified via integrated circuit (N102) (FIG 1, 12), in accordance with the ratio of resistors R116 (1 K) and R117 (33 K) and the AC feedback circuit consisting of resistor R116 (1 K) and capacitor C111 (10 μ).

3. Yanagidaira disclosed an automatic gain control circuit (AGC) (FIG 1, 26). The circuit (AGC) is for extracting an α wave from a user. In the Detailed Description of the Preferred Embodiments, it states: "The amplified brain wave is applied through the A/D converter 25 and the ACG 26 to the BPF 270 where a proper α wave is extracted". (Col 5, In 8-10).

   We have two controllers, one is for timing and the other is for the output of current amplitude. We did not need to extract an α wave directly from a user. Instead we used directly the recorded data of simulated alpha rhythm waveforms, which are more precise than Yanagidaira's.

4. In response to Meland's application (claims 1 and 15), we have canceled our claims 5, which is a circuit for timing.

5. In response to claim 10, applicants agreed that two pushbuttons for 10 minutes and 20 minutes should be rejected. Therefore we have canceled claim 10.

6. In response to claims 9-11, applicants agreed that both the pushbutton for power and two pushbuttons for switching between time and amplitude should be rejected. Therefore we have canceled claims 9-11.

In response to claim 13-15 rejection under 35 U.S.C. 103 (a) as being unpatentable over Yanagidaira in view of Ballentine, we have amended the claims accordingly. The structure and function of our transducer is different from Ballentine's as follows:

1. In Bellentine's application, it described a method that a transducer converts the audio electrical currents into sound waves which are then transmitted through air passages and to ear chambers (Col 4, In 62-64, FIG. 6: 60). Bellentine did not disclose the structure of the transducer. In the detailed description, Bellentine only described that "An acoustic stimulus is developed inside cabinet C and transmitted through tube 33 into the hollow headset 30. ....The element 30 is made of a light plastic and is washable". (Col 3, In 53-59; FIG. 1: 33; FIG. 5: 30; FIG. 6: 60).

   Our transducer consists of a conductor 15, coiled wire 17, magnet 18, and casing 19, and constructed with a novelty. It transforms the signals into the energies combined with a sub-audio acoustic energy, along with the electromagnetic energy, interfered static magnetic energy, and mechanical vibrational energy. The function of the transducer is better for healing and relaxing.

2. Most importantly, Bellentine's transducer transmitted monotone (Col 14, In 9-14). It states "A feature of the present invention is to use the monotone as a means for isolating the patient from the auditory environment". (Col 5, In 17-19; Col 14, In 9-15).

   Our transducer generates a sub-audio acoustic energy, along with the electromagnetic energy, interfered static magnetic energy, and mechanical vibrational energy. Our apparatus is better for healing and relaxing.

3. Yanagidaira disclosed that a stimulation light is emitted to the user in order to induce the user to relax or sleeping state (Abstract). Ballentine disclosed that a method and apparatus for inducing sleep via electric current pulses passed through the brainstem via electrode attached to the back of the head and forehead, and that the electric current pulses have a frequency of 8 to 10 cycles per second (Abstract).

   Our apparatus is more effective in inducing sleep via the combined energies of the electromagnetic energy, interfered static magnetic energy, sub-audio acoustic energy and mechanical vibrational energy. The methods of stimulations are different from Yanagidaira's and Ballentine's. We did not use the stimulation light. We did not use electrode attached to the head, and instead our transducer can be used about without clothes off..

4. We agreed with Office Action that using alpha rhythm waveforms to treat sleep disorder. We amended the claim 17 by adding our special "energies" of alpha

rhythm waveforms, which is better and easy and safe to use for treating sleep disorder. Other inventions may disclose different stimulations, such as light.

In response to, in the Conclusion, the statement "That prior art made of record and not relied upon is considered pertinent to applicant's disclosure", we have analyzed each application and found that their inventions are different from us. Our application obtains patentable novelty over the following prior arts.

1. In Gall's application (5289438), it disclosed a method and system for altering consciousness. Gall used visual, electrical current and aural stimulations. The stimulations were recorded on small, convenient tape or disc records and played back by the subject on an inexpensive portable player. (Col. 2, In 49-54).
   Our apparatus induces the energies combined with electromagnetic energy, interfered static magnetic energy, sub-audio acoustic energy and mechanical vibrational energy, for treating health problems, like sleep disorders and men's prostate problems.
2. In Carter's application (RE36348), it disclosed a method and apparatus for changing brain wave frequency by stimulating a user, which includes determining a desired brain wave frequency, a current brain wave frequency of the user, then generating a first signal at a first frequency and a second signal at a second frequency, then producing an output detectable by the user corresponding to the first and second signals to generate a beat signal equal to the frequency difference. (Col. 4, In 8-24). The output of changing of brain wave frequency can be sound

or light, which can be detected by earphones and visual apparatus (FIG. 1: 30, 32, 36, 40, 42).

We use simulated alpha rhythm human brain waveforms. The output is a sub-audio acoustic energy and others, which cannot be detected by earphones and visual apparatus, like Carter's. Our combined energies are better and easy and safe to use.

3. In Monroe's application (5356368), it disclosed a method and apparatus for entraining human brain patterns by inducing desired states of consciousness by sound patterns. The sound pattern is released via one or more speakers, dependent on the ambient noise level. (Col. 8, In 7-16).

   Our apparatus is designed for releasing a sub-audio acoustic energy and others, which are not dependent on the ambient noise level. Our energies are released via a transducer that is better and easy and safe to use.

4. In Mori's application (20010003145), it disclosed a judgment method to separate brain waves, i.e., α wave signal and β wave signal, at the subject's forehead and then to calculate the ratio of these two wave signals. The brain wave activities are judged based on the calculation (claim 1).

   Our apparatus is designed for releasing energies of simulated alpha rhythm human brain waveforms for healing, not for judgment of brain wave activities and not for measurement of brain wave activity quantification.

5. In Suffin's application, it disclosed a method for classifying and treating physiological brain imbalances using quantitative EEG. Suffin measured patients

with electrodes and an EEG/QEEG instrument, such as the Spectrum 32, manufactured by Caldwell Laboratories, Inc. (Col. 8, In 8-55). The method of the invention employs neurophysiologic information for assessing, classifying, analyzing and generating treatment recommendations for physiological brain imbalances. The invention is based upon the discovery that neurophysiologic information can be used as an independent variable to identify physiological brain imbalances (Col. 2, In 41-47).

Our apparatus is designed for healing via special combined energies of simulated alpha rhythm human brain waveforms, but not for measuring patients and not for generating treatment recommendations.

CONCLUSION

In response to the Office Action, applicants have amended the claims and specification. The amended claims all define patentably over the prior art. Applicants respectfully requests that a timely Notice of Allowance be issued in this case.

Conditional Request for Constructive Assistance

Applicants have amended the specification and claims with their best efforts (*a pro se case*). If the Examiner feels that the application is not in full condition of allowance, applicants respectfully and gratefully request the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P § 2173.02 and §707.07 (j) to finalize this application in condition for allowance.

Thank you.

Respectfully Submitted,

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